Sub A1

THERE IS CLAIMED:

1. A control system for a force feedback member able to interact with another member, of the type with a time constant less than that associated with remote control, characterized in that it includes a local model for calculating a set point addressed to said force feedback member from a variable measured by said force feedback member, variables intrinsic to said force feedback member, an estimate of an external interaction with said force feedback member, and a state variable of said force feedback member, a remote model for estimating interactions and state variables of said other member with updating on receipt of data from another remote system, and resynchronizer means able to send a resynchronization message to said other system.

2. The system claimed in claim 1, including a phantom model for obtaining an estimate of state variables of said force feedback member and resynchronizing said estimate on reception of said resynchronization message.

3. The system claimed in claim 2, wherein said resynchronizer means include comparator means for comparing said estimate of state variables from said phantom model and state variables from said local model so that in the event of a difference exceeding a predetermined threshold said resynchronization means can send a resynchronization message to said phantom model and to said other system.

4. The system claimed in claim 1, including extrapolator means for processing a resynchronization message for updating said remote model received from said other system.

5. A control system for two remote members, each member being provided with a control system claimed in claim 1.

6. A method of controlling a force feedback member able to interact with another member, said method including:

- local modeling to obtain a set point sent to said force feedback member from a variable measured by said force feedback member, variables intrinsic to said force feedback member, an estimate of an external interaction with said force feedback member, and a state variable of said force feedback member;

- remote modeling of the interactions and said state variables of said other member with updating on receiving data from another remote system;

- generating a resynchronization message and sending it to said other system.

7. The method claimed in claim 6, including phantom modeling of state variables of said force feedback member with resynchronization on receiving said resynchronization message.

8. The method claimed in claim 7, wherein, at the time of resynchronization, said estimate of state variables from said phantom modeling and state variables from said local modeling are compared so that in the event of a difference exceeding a predetermined threshold a resynchronization message can be sent to said other system with a view to new phantom modeling.

9. The method claimed in claim 6, including extrapolation to process a resynchronization message from said other system and to update said remote modeling.

10. A computer program including program code means for executing the steps of a method as claimed in claim 6 when said program runs on a computer.

11. A medium capable of being read by a reader and storing program code means for executing the steps of a method as claimed in claim 6 when said program runs on a computer.